YOUR TRIP TO THE ATHABASCA OIL SANDS

WITH THE COMPLIMENTS OF

GREAT CANADIAN OIL SANDS LIMITED

FORT McMURRAY, ALBERTA

YOUR PLANT TOUR

Your tour of Great Canadian's mining and processing facilities will cover the major units of the complex which are described for orientation purposes in the notes that follow:

A. Two giant bucketwheel excavators, each costing $4.6 million, are capable of digging 108,000 tons of sand daily which are then fed by high-speed conveyor belts to the extractian plant.

B. At the primary extraction plant raw sand is mixed with hot water and steam in conditioning drums. The bitumen is then separated fram the sand as it floats to the surface of the water in separation cells.

C. The final extraction plant, where remaining water and minerals are removed from the bitumen. Two separate conveyor systems move the product from the mine to the extraction plant.

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F. Power Plant, where
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G. Water Treatment P
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A WORD OF WELCOME

We welcome you to Great Canadian Oil Sands and hope that you will enjoy your visit to our plant and to the rapidly growing, modern Town of Fort McMurray.

This brochure should make a useful souvenir of your trip and will help you in re-visualizing the tour around the plant.

In the package attached is a small sample of the complex product we call "Oil Sand." It contains a multitude of valuable elements as well as the oil for which it is so famous.

Sincerely,

W. Harold Rea
Chairman, Board of Directors

OIL SAND

...m the Athabasca
Deposit Near Fort McMurray

It contains:

SAND		BITUMEN	WATER
MINERALS	CLAY	Paraffins	
		Aromatics	
Silica		Asphaltenes	
Zir...	...nite	SULPHUR	
Mi...		Vanadium	
I...			
		...ban	

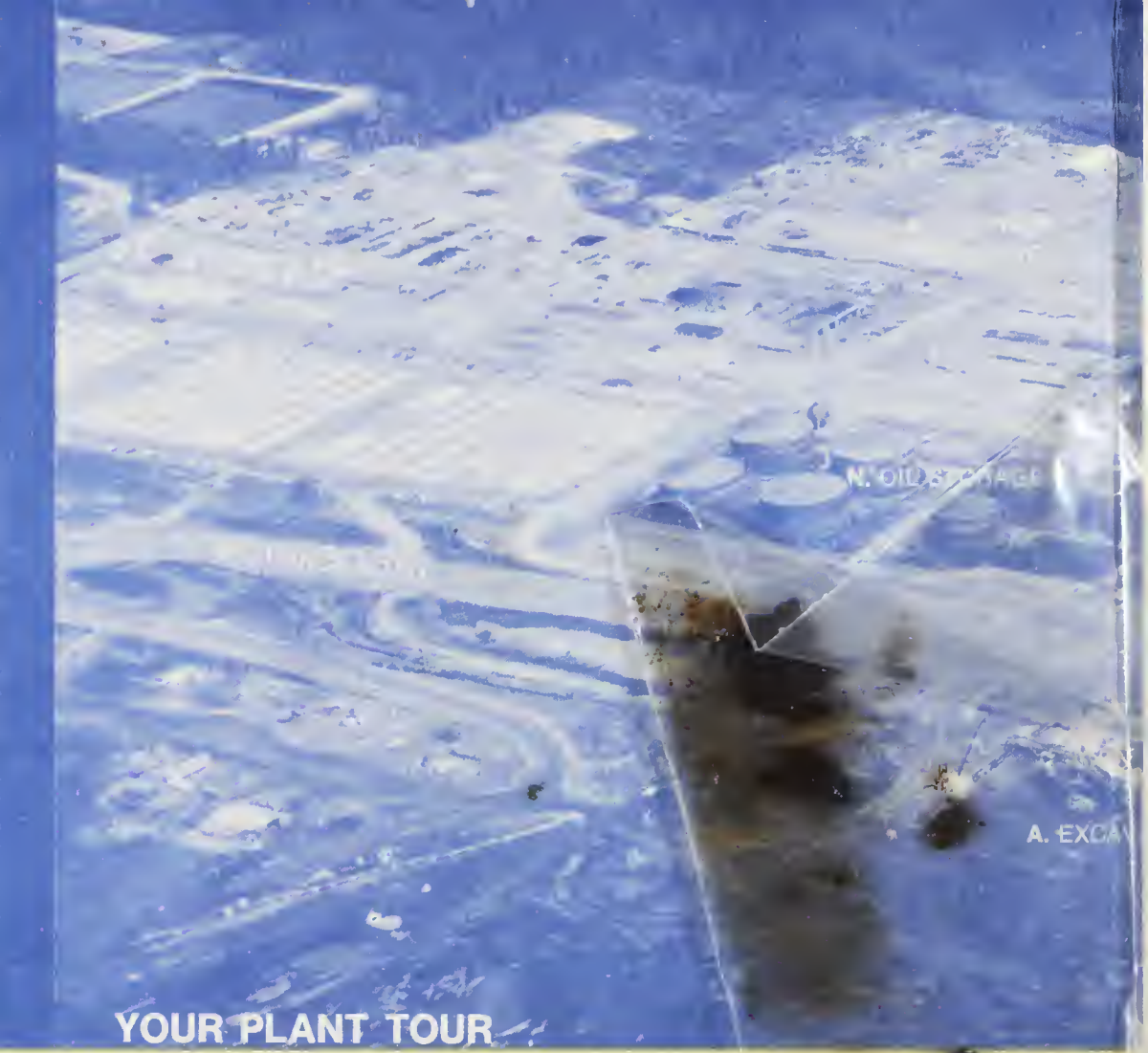
...te the com-
plexi... components.

Chlor... $Al_2 Si O_9$

Kaolinite—$Al_2 O_3 . 2 Si O_2 . 2 H_2O$

Calcite—$Ca CO_3$

Montmorillonite—$(Mg, Ca) O . Al_2 O_3 . 5 Si O_2$



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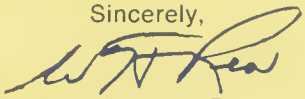

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	SAND	BITUMEN	WATER
MINERALS	CLAY	Poraffins	
		Aromatics	
Silico	Kaalinite	Asphaltenes	
Zircon	Montmarillanite	SULPHUR	
Mica	Calcite	Vanadium	
Iran	Illite	Nickel	
	Chlorite	Titanium	
		Free Carbon	

The fallawing farmulae indicate the complexity af same af the enclased camponents.

Chlarite—$H_4 Mg_3 Si_2 O_9 . H_4 Mg_2 Al_2 Si O_9$

Kaalinite—$Al_2 O_3 . 2 Si O_2 . 2 H_2O$

Calcite—$Ca CO_3$

Mantmarillanite—$(Mg, Ca) O . Al_2 O_3 . 5 Si O_2$

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C. The final extraction plant, where remaining water and minerals are removed from the bitumen. Two separate conveyor systems move the product from the mine to the extraction plant.

D. The Tailings pumphouse and pond, a diked area into which clean sand and water are pumped.

E. Tanks where bitumen is stored prior to further processing.

F. Power Plant, where power and steam are generated for use in the extraction and refining processes. Some 65,000 K.W. of electricity are generated here, enough to supply the needs of a residential town of 50,000.

G. Water Treatment Plant, purifies Athabasca River water for human consumption and for the huge demand of all processing operations.

H. Oily Water Treatment prevents pollution of the river system as the "used water" is discharged to its original source.

I. Coking drums where lighter oils are distilled off, leaving coke residue. The cake is then moved to the power plant by conveyor for use as fuel. Additional fuel is provided as required by natural gas.

J. Flare stacks where waste gases from plant operations are burned off to prevent air pollution. The surrounding air is constantly checked and recorded by means of 21 sensitive monitors located near the plant.

K. Sulphur recovery section of process area. Here hydrogen sulphide is removed from gases recovered during processing operations and converted into a sulphur by-product estimated at about 300 tons per day.

L. Storage area for sulphur prior to shipment.

M. Hydrogen is manufactured here from gases recovered during processing operations. The hydrogen is used for processing.

N. Tanks for storing synthetic crude oil prior to pumping it into the GCOS 266-mile oil pipeline to Edmonton.

O. Administration building, service and shop area—the nerve centre of the multi-million dollar complex.

P. Plastic bubble used initially to protect construction men from extreme weather conditions while assembling plant components. It is now used for storage purposes. (This item is no longer present.)

GREAT CANADIAN PLANT TAPS HUGE ENERGY RESERVE FOR CANADA

The completion and official opening in 1967, of Great Canadian Oil Sands Limited's Athabasca plant represented a unique achievement for Alberta and all of Canada. For this $235 million industrial complex along the banks of the Athabasca River is the first of its kind anywhere in the world.

The Athabasca sands that it is tapping are estimated to contain over 300 billion barrels of recoverable oil, an amount closely approximating the world's total known reserves of conventional oil. Commercial development of this oil as a supplement to Canada's existing reserves will assure the Nation a plentiful supply of petroleum energy in the future.

The lease being mined by Great Canadian covers an area of more than 4,000 acres. Estimates indicate that it contains enough oil sand to supply the plant for 30 years at the present rate of operation. Yet the lease contains only five one-hundredths of one per cent of the total Athabasca oil sands area.

The plant that is producing the first oil from Athabasca began to take shape in 1964. In February of that year, the Alberta Oil and Gas Conservation Board recommended approval of Great Canadian's proposal, and in April the Government of Alberta granted GCOS a permit for production of oil from the sands.

Site preparation began immediately and actual construction got underway in September of 1964. Construction activity accelerated steadily throughout 1965, reaching a peak in the summer months of 1966 when more than 2,300 men were at work at the plant site. By July 1, 1967, the plant was mechanically complete and testing was underway.

The first bitumen was produced in test operations in May, 1967, and the first oil was pumped into the plant's storage tanks in early August, 1967.

The plant has a capacity of 45,000 barrels of synthetic crude oil daily. The oil is pumped through Great Canadian's 266-mile pipeline to Edmonton where it is delivered to Interprovincial Pipe Line for shipment to refineries. Sun Oil Company Limited is purchasing 75 per cent of the output, some of which will be refined at its Sarnia Refinery. The principal products will be gasoline, kerosine and heating oils.

Mining and processing facilities are operated by a work force of some 450 employees, all of whom are paid on a salary basis and all of whom enjoy the advantages of a comprehensive employee benefits programme. Additional crews provide maintenance services on a contract basis.